



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/076,428	02/19/2002	Yi-Shan Chu	ACR0058-US	2308

7590 02/27/2003  
Michael D. Bednarek  
SHAWPITTMAN  
1650 Tysons Boulevard  
McLean, VA 22102-4859

EXAMINER

LEE, WILSON

ART UNIT	PAPER NUMBER
----------	--------------

2821

DATE MAILED: 02/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/076,428

Applicant(s)

CHU ET AL.

Examiner

Wilson Lee

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-18 is/are allowed.
- 6) ☒ Claim(s) 1,3,4,10,19 and 21 is/are rejected.
- 7) ☒ Claim(s) 2,5-9,20 and 22 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **Claim Rejections – 35 U.S.C. 102**

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, 4, 10, 19 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Bobel (5,150,013).

Regarding Claim 1, Bobel discloses an inverter (See Figure 2), comprising:

- a transformer (L1, L2);
- a first switch transistor (Q1) with one of the source/drain thereof electrically coupled to the primary side of said transformer;
- a second switch transistor (Q2) with one of the source/drain thereof electrically coupled to the primary side of said transformer;
- a reset capacitor (CR) electrically coupled between the other of the source/drain of said first switch transistor (Q1) and the other of the source/drain of said second switch transistor (Q2) (See Col. 5, lines 4-8) ; and
- a control circuit (multivibrator) for generating two switch control signals in response to a voltage feedback signal representing the current value (See Col. 1, line 49 to Col. 2, line 20) at the secondary side (NB1, NB2) of said transformer and respectively outputting to the gate of said first switch transistor (Q1) and the gate of said second switch transistor (Q2) to thereby cause said first switch

transistor (Q1) and said second switch transistor (Q2) not to conduct current at the same time(See Col. 5, lines 16-44).

Regarding Claim 3, Bobel discloses a decoupling capacitor (CD) coupled to the secondary side of the transformer (See Figure 2)

Regarding Claim 4, Bobel discloses that said control circuit comprises a driving circuit which utilizes the voltage across said reset capacitor as driving power for generating said two switch control signals (See Col. 2, lines 12-16).

Regarding Claim 10, Bobel discloses that said control circuit further renders both said first and said second switch transistors (Q1, Q2) non-conducting during the interval (saturation in very short time. See Col. 2, lines 21-27) between the conducting of said first switch transistor and the conducting of said second switch transistor.

Regarding Claim 19, Bobel discloses an inverter (See Figure 2), comprising:

- a transformer (L1, L2);
- a first switch transistor (Q1) with one of the source/drain thereof electrically coupled to the primary side (L1) of said transformer;
- a second switch transistor (Q2) with one of the source/drain thereof electrically coupled to the primary side (L2) of said transformer;
- a reset capacitor (CR) electrically coupled between the other of the source/drain of said first switch transistor (Q1) and the other of the source/drain of said second switch transistor (Q2) (See Col. 5, lines 4-8); and

Art Unit: 2821

- a control circuit (multivibrator or inductance L1, L2) for controlling said first switch transistor and said second switch transistor not to conduct current at the same time (See Col. 5, lines 16-44).

Regarding Claim 21, Bobel discloses that said control circuit further renders both said first and said second switch transistors (Q1, Q2) non-conducting (saturation of both transistors in very short time. See Col. 2, lines 21-27) during the interval between the conducting of said first switch transistor and the conducting of said second switch transistor.

#### **Allowable subject matter**

Claims 2, 5-9, 20, 22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 11-18 are allowed.

The following is an examiner's statement of reasons for allowance:

The prior art neither discloses nor suggests:

a lamp ignition system, comprising:

- a discharge lamp;
- an inverter; wherein said inverter comprising:
- a transformer with the secondary side thereof electrically coupled to said discharge lamp;
- a first switch transistor with one of the source/drain thereof electrically coupled to the primary side of said transformer;

Art Unit: 2821

- a second switch transistor with one of the source/drain thereof electrically coupled to the primary side of said transformer; a reset capacitor electrically coupled between the other of the source/drain of said first switch transistor and the other of the source/drain of said second switch transistor; and
- a control circuit for generating two switch control signals in response to a voltage feedback signal representing the current value at the secondary side of said transformer and respectively outputting to the gate of said first switch transistor and the gate of said second switch transistor to thereby cause said first switch transistor and said second switch transistor not to conduct current at the same time.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### **Conclusion**

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Nilssen (5,510,681) discloses a half-bridge inverter controlled by transformer. Shackle et al. (5,493,181) discloses two snubber capacitors connected between the first and second transistors.

**Correspondence**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Wilson Lee whose telephone number is (703) 306-3426.

Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center receptionist whose telephone number is (703) 308-0956.

Papers related to Technology Center 2800 applications may be submitted to Technology Center 2800 by facsimile transmission. Any transmission not to be considered an official response must be clearly marked "DRAFT". The Technology Center Fax Center number is (703) 308-7722 or (703) 308-7724.

A handwritten signature in black ink, appearing to read "Wilson Lee", is written over a horizontal line.

Wilson Lee  
Patent Examiner  
U.S. Patent & Trademark Office

WL  
2/24/03